

What is claimed is:

[Claim 1] An automotive interior component providing an airbag cushion capable of being filled by an inflation fluid to restrain an occupant inside a passenger cabin of a vehicle, comprising:

a substrate adapted to be mounted inside the passenger cabin; and
a covering on at least a portion of said substrate, said covering including an elastic outer layer of a polymer material and a core of said polymer material having a cellular structure positioned between said outer layer and said substrate, said cellular structure of said core configured to lose cohesion upon receipt of the inflation fluid for defining a space between said outer layer and said substrate, and said space filling with the inflation fluid to cause elastic expansion of said outer layer for defining the airbag cushion.

[Claim 2] The automotive interior component of claim 1 wherein said substrate includes a material selected from the group consisting of a thermoplastic polymer and a thermoset polymer.

[Claim 3] The automotive interior component of claim 1 wherein said polymer material forming said covering is selected from the group consisting of a thermoplastic elastomer compound and a polyolefin.

[Claim 4] The automotive interior component of claim 1 further comprising:
an inner layer of said polymer material having said substantially non-cellular structure positioned between said core and said substrate, said inner layer remaining attached to said substrate after inflation of said space to define the airbag.

[Claim 5] The automotive interior component of claim 1 wherein said covering and said substrate define a unitary molded assembly.

[Claim 6] The automotive interior component of claim 5 wherein said substrate is formed by a first shot of a two-shot molding process and said covering is formed by a second shot of the two-shot molding process.

[Claim 7] The automotive interior component of claim 1 wherein said core includes an opening defining a pathway for inflation fluid supplied from an inflation fluid source.

[Claim 8] The automotive interior component of claim 1 wherein said core is less dense than said outer skin.

[Claim 9] The automotive interior component of claim 1 wherein said polymer material in said outer layer is non-cellular.

[Claim 10] A method of manufacturing an inflatable airbag cushion for use as an automotive interior component, comprising:

 injection molding a first polymer to form a substrate; and

 injection molding a second polymer to form a covering across a surface of the substrate to define the inflatable airbag cushion, the covering including a elastic outer layer of the second polymer and a core of the second polymer having a cellular structure positioned between the substrate and the non-cellular outer layer.

[Claim 11] The method of claim 10 wherein injection molding the second polymer further comprises:

 mixing a blowing agent with the second polymer; and

 allowing the blowing agent to form the cellular structure of the core.

[Claim 12] The method of claim 10 wherein the first polymer is injection molded in a first injection-molding cavity of a mold assembly and the second

polymer is injection molded in a second injection-molding cavity in the mold assembly, and further comprising:

- removing the substrate from the first injection-molding cavity; and
- placing the substrate into the second injection-molding cavity for injection molding of the second polymer.

[Claim 13] A method of restraining an occupant of a vehicle passenger cabin with an airbag deployed upon an occurrence of a measurable vehicle condition, comprising:

- detecting the occurrence of the measurable vehicle condition;
- discharging an inflation fluid into a core of a covering on a substrate located inside the vehicle passenger cabin in response to the measurable vehicle condition so that the core loses cohesion and defines a space between the substrate and an elastic outer skin of the covering; and
- filling the space with the inflation fluid so that the outer skin elastically expands into the vehicle passenger cabin and defines the airbag cushion at a position that restrains the occupant.

[Claim 14] The method of claim 13 wherein a portion of the outer skin is coupled with an inner skin of the covering that remains attached to the substrate when the airbag cushion is inflated.